1.- Create functions that show the elements of a vector (one that uses for loop; another while; and last one with repeat). A=c(2,1,4,3,5)

```
elements_for<-function()
{
  A=c(2,1,4,3,5)
  for (i in 1:length(A))
  {
        print(A[i])
  }
}
elements_while<-function()
{
  A=c(2,1,4,3,5)
  i=1
  while(i<=length(A))
  {
        print(A[i])
        i=i+1
  }
}

elements_repeat<-function()
{
  A=c(2,1,4,3,5)
  i=1
  repeat
  {
        print(A[i])
        i=i+1
        if (i>length(A))
          break
  }
}
```

2.- Create a function that show elements of a vector from right to left, using repeat or while loop
A=c(2,1,4,3,5)

```
elements_for<-function()
{

  A=c(2,1,4,3,5)
  for (i in length(A):1)
  {
        print(A[i])
  }
}
elements_while<-function()
{

  A=c(2,1,4,3,5)
  i=length(A)
  while(i>=1)
  {
        print(A[i])
        i=i-1
  }
}

elements_repeat<-function()
{

  A=c(2,1,4,3,5)
  i=length(A)
  repeat
  {
        print(A[i])
        i=i-1
        if (i<1)
          break
  }
}
```

3.- Create a function that requests a number using keyboard and counts how many times the number appears in the vector. A=c(2,1,4,3,5,2,4,3,1,4,2,2,3)

```r
elements_for<-function()
{
  A=c(2,1,4,3,5,2,4,3,1,4,2,2,3)
  num=scan(,,1)
  cont=0
  for (i in 1:length(A))
  {
        if(num==A[i])
          cont=cont+1
  }
  cat("Number of times:", cont,"\n")
}

elements_while<-function()
{
  A=c(2,1,4,3,5,2,4,3,1,4,2,2,3)
  num=scan(,,1)
  cont=0
  i=1
  while(i<=length(A))
  {
        if(num==A[i])
          cont=cont+1
     i=i+1
  }
  cat("Number of times:", cont,"\n")
}

elements_repeat<-function()
{
  A=c(2,1,4,3,5,2,4,3,1,4,2,2,3)
  num=scan(,,1)
  cont=0
  i=1
  repeat
  {
        if(num==A[i])
          cont=cont+1
     i=i+1
        if(i>length(A))
          break
  }
 cat("Number of times:", cont,"\n")
}
```

4.- Create a function that requests a number using keyboard and modifies the number by an *.
A=c(2,1,4,3,5)

```
elements_for<-function()
{

  A=c(2,1,4,3,5,2,4,3,1,4,2,2,3)
  num=scan(,,1)
  cont=0
  for (i in 1:length(A))
  {
        if(num==A[i])
         A[i]="*"
  }
  print(A)
}

elements_while<-function()
{

  A=c(2,1,4,3,5,2,4,3,1,4,2,2,3)
  num=scan(,,1)
  cont=0
  i=1
  while(i<=length(A))
  {
        if(num==A[i])
          A[i]="*"
    i=i+1
  }
  print(A)
}

elements_repeat<-function()
{

  A=c(2,1,4,3,5,2,4,3,1,4,2,2,3)
  num=scan(,,1)
  cont=0
  i=1
  repeat
  {
        if(num==A[i])
    A[i]="*"
    i=i+1
        if(i>length(A))
         break
  }
 print(A)
}
```

5.- Create functions that show the elements of a matrix (one function using for; other one using while and last one with repeat loop)

```
elements_for<-function()
{
  A=matrix(c(2,1,4,3,5,2,4,3,1,4,2,2), nrow=3)
  print(A)
  for (i in 1:nrow(A))
  {
   for (j in 1:ncol(A))
   {
     print(A[i,j])
   }
  }
}

elements_while<-function()
{
  A=matrix(c(2,1,4,3,5,2,4,3,1,4,2,2), nrow=3)
  print(A)
  i=1
  while(i<=nrow(A))
  {
  j=1
   while(j<=ncol(A))
   {
        cat("Element:",i,",",j,":", A[i,j],"\n")
      j=j+1
   }
  i=i+1
  }
}

elements_repeat<-function()
{
  A=matrix(c(2,1,4,3,5,2,4,3,1,4,2,2), nrow=3)
  print(A)
  i=1
  repeat
  {
   j=1
   repeat
   {
        cat("Element:",i,",",j,":", A[i,j],"\n")
     j=j+1
        if(j>ncol(A))
          break
   }
   i=i+1
   if(i>nrow(A))
        break
  }
}
```